Shropshire Botanical Society

Newsletter

Spring 2004

Alex Lockton

Floating Water-plantain *Luronium natans* at a new site in Shropshire

Shropshire Botanical Society Newsletter No. 10 Spring 2004

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Any opinions expressed in this newsletter are those of the various authors, and are not necessarily those of the Society

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Botanical Society News

Sarah Whild

It has been a good start to the year for the Botanical Society, with record numbers of hits for our website, averaging out at around 1000 per month. The Society has also taken on two contracts; one from the Severn-Vyrnwy Project where we were asked to analyse botanical records from the area, and one from the Shropshire Wildlife Trust, drawing up a list of Species of Conservation Significance (see page 12).

Our AGM is coming up in April, details below. Nominations are, as always, welcomed, although we have a good committee at the moment and everyone is standing for re-election. Which is not to say that newcomers are not welcomed: they always are. Please contact the secretary Mags Cousins if you might be interested in joining the committee.

Annual General Meeting
Saturday April 24th at 2pm
Preston Montford Field Centre

Dr Fred Rumsey of the Natural History Museum
will be giving a bryological talk on

"Knotholes & potholes - work on threatened *Zygodon* species"

We also have advance notice of the winter meeting.

Winter Meeting
Saturday 4th December
Prof. Ian Trueman of the University of Wolverhampton
will be talking about his experiments to create hay meadows in Shropshire
(title to be confirmed).

Since the last newsletter records have been received from:

Janet Allwood
Pete Boardman
Peter Brown
John Clayfield
Ruth Dawes
Peter Gateley
Pam Green
Jane Ing
Marjorie Leonard
Alex Lockton
Jessie MacKay
Steve O'Donnell
Tessa Pearson
Sue Roach
Rob Stokes
Gareth Thomas
Ian Thompson
John Thompson
John Tucker
Kate Thorne
Will Watson
Sarah Whild
Paddy Willis

We are sad to note the death of Mary Fuller in December, who – as can be seen from her obituary – was a significant contributor to botanical recording in the county, and beyond.

Please can everyone note their membership details as published at the back of each newsletter. Anyone whose subs are due should also receive a reminder with this edition. Second reminders are sent out in the autumn – but not with newsletters. Currently we have about 75 paid-up members and 24 whose subs are due.

Instead of a Golden ragwort Award this time we have given you the response from the regional heritage manager of British Waterways to their prize in the last newsletter. It probably speaks for itself.

In the meantime, happy botanising – please come along to the field meetings, and bring new botanists with you – beginners are always welcome.

New Records

Alex Lockton

First county records

- A hybrid water-crowfoot, thought to be *Ranunculus x virzionensis* A. Felix (*R. aquatilis* L. x *R. peltatus* Schrank) was collected at Wildmoor Pool (SO4296) by Sarah Whild on 17th July 2003. It was growing with both its putative parents, and had the characteristic hybrid leaf shape (half expanded floating leaf and half submerged filamentous leaf) of hybrid buttercups, but it seem that there are no aquatic plant experts in Britain who are willing to name such material, so for now it remains only a tentative record.

Ranunculus cf. *x virzionensis*

- Peter Gateley recorded *Berberis thunbergii* DC. **Thunberg's Barberry** and *Berberis x stenophylla* (*B. darwinii* Hook. x *B. empetrifolia* Lam.) **Hedge Barberry** at Ketley Pitmounds (SJ6811) in 2003. Stace (1997) describes these as commonly planted but rarely naturalised shrubs.
- Another exotic recorded by Peter Gateley from Ketley was *Liquidamber styraciflua* L. **American Sweetgum**.
- Steve O'Donnell gets a first county record for *Rumex crispus* L. ssp. *crispus*, the normal form of **Curled Dock** found everywhere in the county (Overley, SJ6010, 23rd May 2003). It did not need a name until other subspecies of maritime curled docks were described, but nevertheless we need a record of it before it can be added to the county list.
- Peter Gateley also found:
  - *Arbutus unedo* L. **Strawberry Tree**
  - *Spiraea x pseudosalicifolia* Silverside **Confused Bridewort**
  - *Stephanandra tanakae* Frank. & Sav. **Stephanandra**
  - *Prunus cerasifera* var. *pissardii* (Carriere) L. Bailey **Cherry Plum**
  - *Amelanchier lamarckii* F.-G. Schroeder **Juneberry**
  - *Elaeagnus pungens* var. *maculata* Thunb. **Variegated Eleagnus**
  - *Acer rufinerve* Siebold & Zucc. **Grey-budded Snakebark-maple**
  - and *Cotinus coggygria* Scop. **Smoke-tree** at Ketley Pitmounds. Details as above.
- Rob Stokes collected *Symphoricarpos x chenaultii* Rehder **Pink Snowberry** at Market Drayton (SJ691349) on 2nd December 2003 (conf. S.J. Whild, Hb. SFG).
- The Brome *Bromus hordeaceus* L. ssp. *longipedicellatus* Spal. was collected by Sarah Whild in fields above Cramer Gutter, SO6479, on 29th May 2000, det. L.M. Spalton, Hb. SFG. This is a newly described taxon that has not yet entered the standard Floras, and it is therefore a first county record.
- **California Brome** *Ceratochloa carinata* (Hook. & Arne) was collected by Sarah Whild along the old railway line at Sutton, Shrewsbury (SJ510105) on 2nd July 2003 (conf. C.A. Stace **LTR**) where a new cycle path had been constructed. This is only the second record for the county, and the first one confirmed by a voucher specimen. The earlier record was for Whittington (SJ324313) in 1979 by Beryl Davies.
- Steve O'Donnell recorded **Spanish Daffodil** *Narcissus pseudonarcissus* ssp. *major* at Overley (SJ6010) in 2003. Garden daffodils have been under-recorded in recent years, but hopefully a new key by Mick Crawley of Imperial College (available from the BSBI web site) will help to rectify this deficiency.

Rare Plants

- Sarah Whild found **Smooth Brome** *Bromus racemosus* L., on the edge of an arable field close to Berrington Pool, SJ525072, on 13th June 2003 (conf. L.M. Spalton), Hb. SFG. This is the fourth record in recent years, and it seems that it might be more widespread than was thought. The other recent finds were at Melverley Farm (SJ5840, S.J. Whild, 1998), Astley Abbots (SO7096, M. Lawley, 1999), and Lower Broughton (SO3190, D.L. Buckingham, 2000), all confirmed by Laurie Spalton. It is believed to be a native species of species-rich wet meadows, but it also occurs as a seed contaminant in sown fields. It is not obvious what its status in Shropshire should be; perhaps it is best considered an archaeophyte here.
- **Slender Soft-brome** *Bromus lepidus* O. Holmb. also turned up in the same arable field close to Berrington Pool, SJ525072, S.J. Whild, 13/6/2003 conf. L.M. Spalton, Hb SFG. This species was formerly introduced with seed mixes into resown pastures, and it was considered to be widely distributed in both the 1962 Atlas of the British Flora and in Sinker's 1985 Flora of Shropshire, but there are no detailed records at all to back this up. Since 1985 there have been almost no records, and the few that there have been are not supported by voucher specimens. This is therefore the first confirmed record for the county. As it was not in a field of sown grassland, it was presumably a relict from earlier times, when pasture and hay fields were more common that part of the county. As it was first introduced to Britain in about 1836, it is considered a neophyte everywhere.

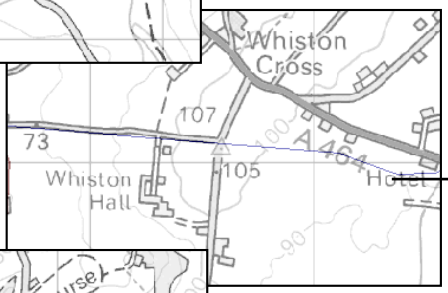
Meetings in 2004

Sarah Whild

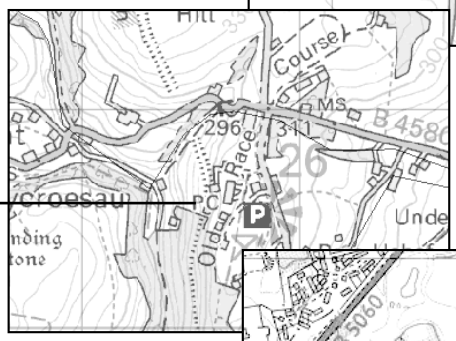
For field meetings, please bring sensible clothing and footwear, waterproofs and lunch, including a drink. A hand lens is also useful. If the leader has to cancel at short notice, we cannot undertake to inform everyone, so to avoid disappointment please call me on 01743 343789 or email s.j.whild@bham.ac.uk a day or two beforehand to check.

Saturday 24th April. Annual General Meeting. Preston Montford Field Centre, 2:00pm.

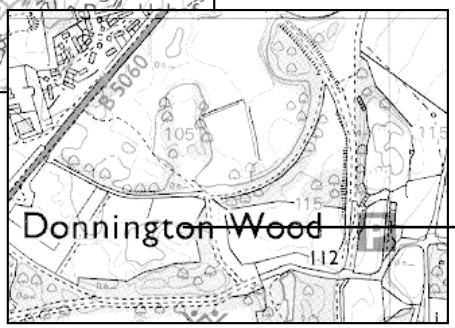
Sunday 9th May 10:30am. **Wenlock Edge**. Park at the National Trust car park at Presthope, SO582975



Wednesday 9th June, 5:30pm
Whiston Meadows
Meet at Whiston Hall, near Albrighton, Telford SJ792028



Saturday 26th June, 10:30am
Oswestry Racecourse, SJ258305



Monday 6th July at Sedge
Granville

6 pm
identification workshop
Country Park, SJ719124

Our final meeting of the summer is on Saturday 4th September at Clun, from where we will set out to look for Spreading Bellflower *Campanula patula* and also visit Llanhowell Meadows, with John Clayfield. Meet at Clun car park at 11 am.

Saturday 4th December: winter meeting at Preston Montford.

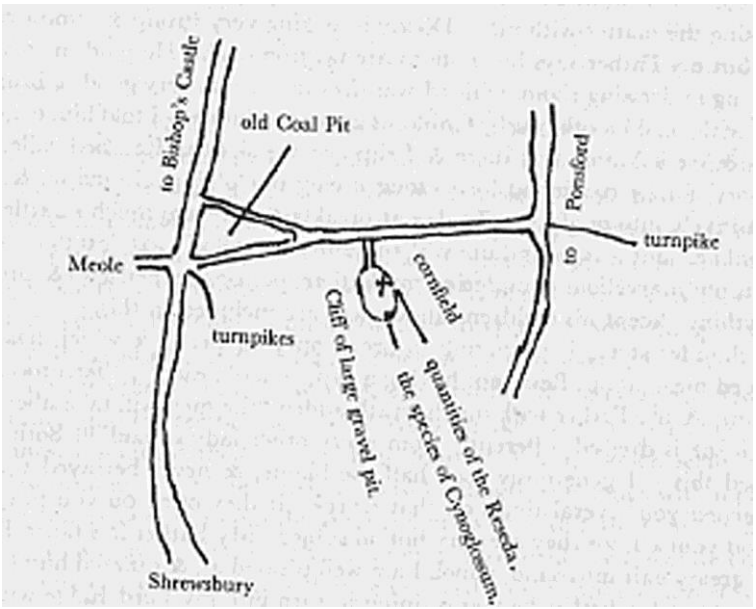
A botanical record by Charles Darwin

Alex Lockton

Last year we received the following email from Professor David Kohn, Oxnam Professor of Science & Society at Drew University, Madison, New Jersey and Senior Research Fellow of The Charles Darwin Trust, London.

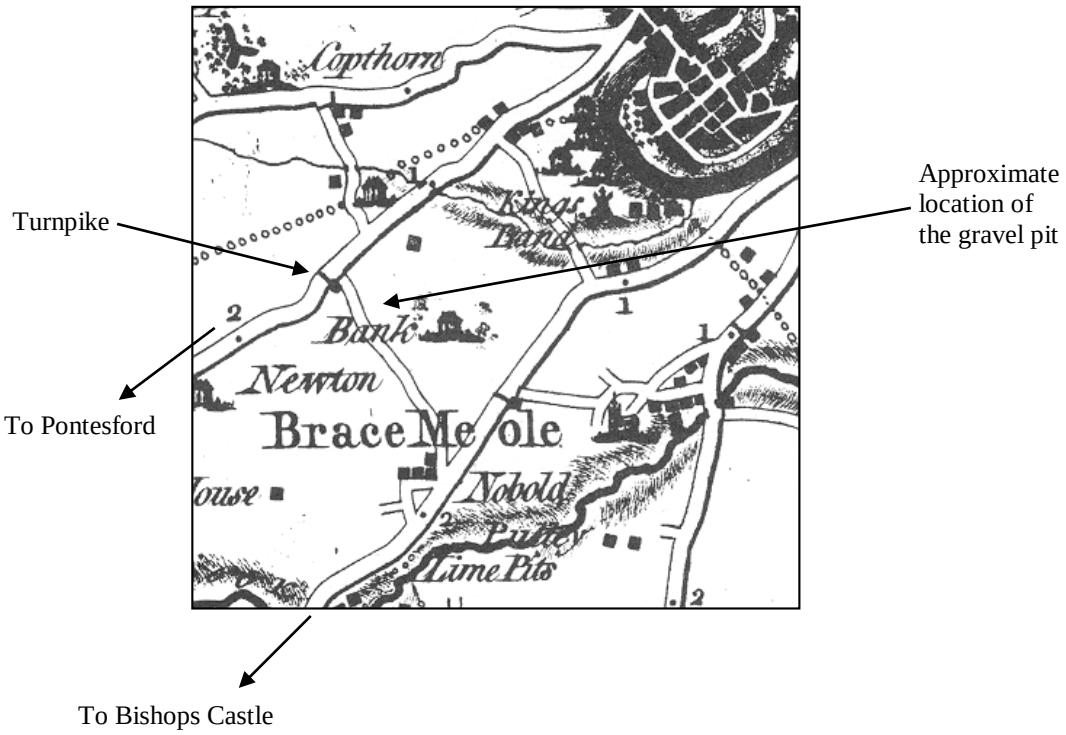
> In the early 1840s, before he settled in Kent, Darwin did a fair amount of botanical rambling between Shrewsbury and Maer (Staffordshire) during summer visits to his & his wife's family. He made many observations and kept extensive notes on floral structure - mostly in garden flowers, but there are also quite a few field observations. In general he is pretty vague about locations. But the one observation that I know of which approaches a 'record' is on *Cynoglossum sylvaticum*. I have transcribed the full set of these 'Notes on the Fertilisation of Flowers' and intend to publish them as an appendix to my book.
>
> The attached file is a footnote from my manuscript, which links to a letter Darwin wrote W.A. Leighton, author of "A flora of Shropshire" (1841). It is that letter which constitutes the record. Attached also is a map he enclosed with the letter. I wonder if the spot is at all recognizable now?
>
> In a letter to W. A. Leighton [1-23 July 1841], Correspondence of Charles Darwin 2:294-293, CD discusses *Cynoglossum*:
>
> "A few days since I was struck by the difference in aspect of a Cynoglossum from the common species. Being no Botanist I did not even know there were two species, till on consulting your work. I have no doubt it was the C. sylvaticum, as it was of a much paler green, with narrower leaves & of a more upright growth. Observing that you do not appear it have seen a Shropshire specimen it has occurred to me that you would like to know where I saw my plant, for the chance of a non-botanist having observed correctly.--the following diagram will best show position."

Plan of the *Cynoglossum* site by C.R. Darwin, 1841

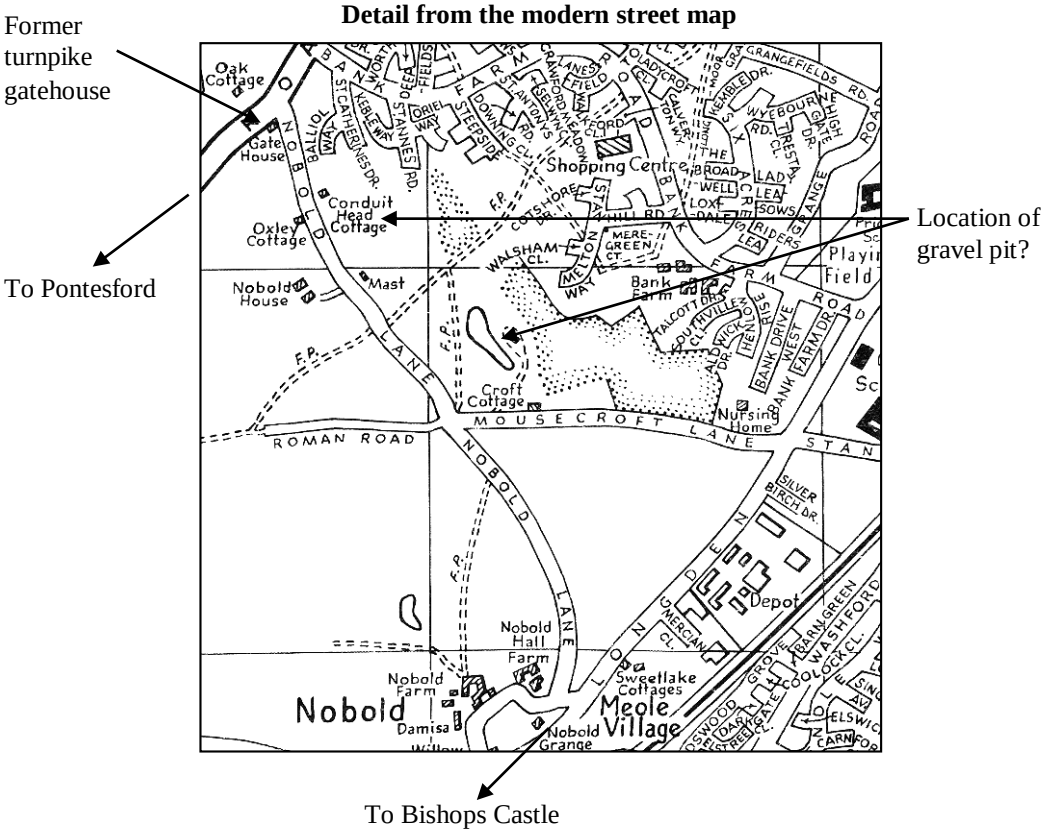


The location of Darwin's gravel pit is probably somewhere around the Coleham Head pumping station, as shown on the maps below, at SJ4711 or SJ4710.

Detail from Robert Baugh's 1808 map of Shropshire



Detail from the modern street map



There is a question of the precise identity of Darwin's *Cynoglossum*. What Leighton meant by *C. sylvaticum* Hænke is what we would now call *C. germanicum* Jacq., Green Hound's-tongue. This is a Red Data Book species in Britain that has always been restricted to the south of England and does not

make its way as far north as Shropshire. This of course casts some doubt on Darwin's identification, especially as he professes to be a complete beginner. The record in Leighton's Flora that Darwin mentions was by Mary McGhie, whose own records have proven somewhat controversial (see Newsletters No. 4 & 5). It is tempting, therefore, to simply dismiss both Darwin's and McGhie's records as errors and leave it at that. Unfortunately it is not so simple. The truth is that *Cynoglossum germanicum* is doubtfully native at all in Britain, as it is a fairly obvious archaeophyte. It almost always grows along roadsides and it has no known native habitat. It also has a very disjunct distribution in Western Europe, typical of a species that has been spread by people. Therefore it could as easily have turned up on roadsides in Shropshire as anywhere else. We cannot reject the record on the grounds of ecology or distribution alone.

The other way to verify the record is by the description that Darwin helpfully gave. He described his plant as being "much paler green, with narrower leaves and more upright growth." But *Cynoglossum germanicum* has darker leaves, not paler ones. Its leaves are indeed narrower, but they are shorter, so they don't look it, and both species have equally upright growth. So it is fairly clear that whatever he was seeing it was not *Cynoglossum sylvaticum*. Also, if Leighton had visited the place and found a very rare species there, he would surely have made a record of it himself, so it seems fair enough to suggest that Darwin's plant was after all just *Cynoglossum officinale*, Hound's-tongue. His *Reseda* would probably have been Weld *Reseda luteola*.

These are the only botanical records by Darwin in Shropshire that we know of and, although it seems a bit harsh to reject one of them, it actually shows how careful he was in making a record, and that his notes allow us to properly validate it. It is impossible for a botanist to always be right, but it is possible to always make good records and it seems that Darwin did indeed do that.

Feedback

The article on the important plants of the Oswestry area drew plenty of helpful comment and criticism. Philip Oswald pointed out that Edward Lhwyd was alleged to have planted Limestone Fern *Gymnocarpium robertianum* not Southern Polypody *Polypodium cambricum* at Llanforda; and that the location of Gwern Vele was in fact solved by Charles Sinker many years ago, and it is in Montgomeryshire, not Shropshire. We concede that he is quite correct on both points, but happily it makes no difference to the list of important species of the area as they all occur (or used to occur) in the area.

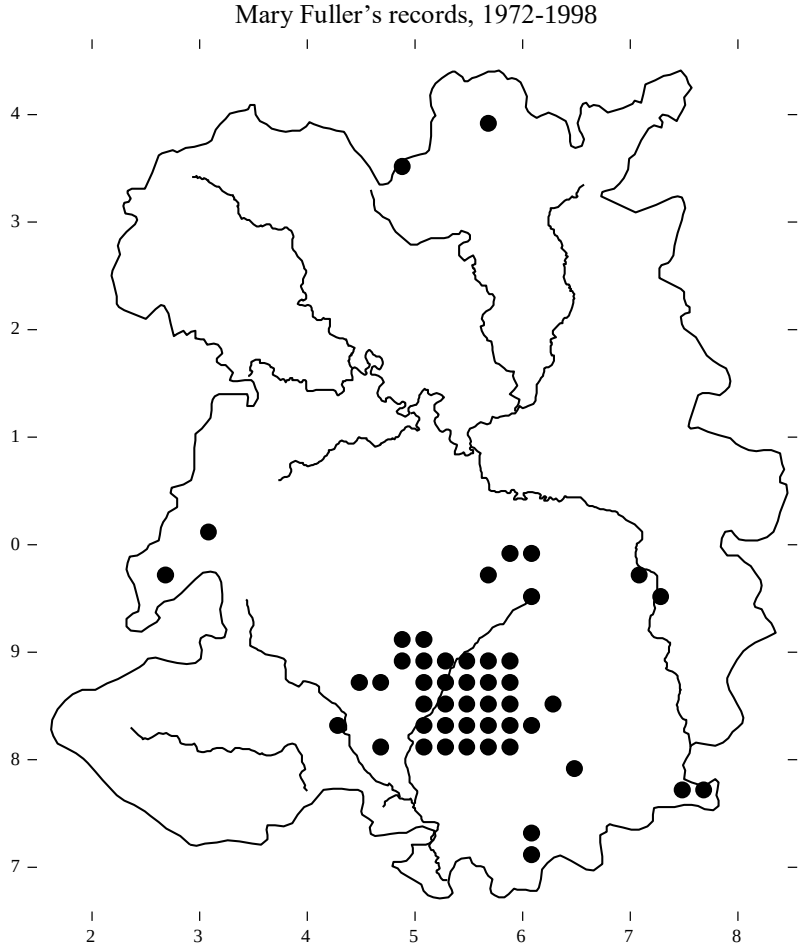
Sue Townsend suggested that Autumn Lady's-tresses *Spiranthes spiralis* should be added to the list of characteristic species of the area. We agree and have included it in the list on the ShropshireBotany web site.

British Waterways asked for a copy of the newsletter in which we gave them the Golden Ragwort Award for their ecologically disastrous restoration of the Montgomery Canal, which seems already to have caused the loss of two species – *Potamogeton friesii* and *P. compressus* – from the county, and brought another one – *P. alpinus* – to the brink of extinction. Their response is reproduced on page 16.

Obituary: Mary B. Fuller (d. 18th December 2003)

Sarah Whild & Alex Lockton

Mary Fuller's first botanical records for Shropshire were sent to the Recorder, Norah Mackenzie, and published in Transactions of the Caradoc & Severn Valley Field Club 1968-1972. These were of Fool's Water-cress *Apium nodiflorum* and Green Figwort *Scrophularia umbrosa* by the River Corve in SO58; Pale Toadflax *Linaria repens* and Creeping Bellflower *Campanula rapunculoides* at Craven Arms (SO4382); and Leopard's-bane *Doronicum pardalianches* at Aston Munslow (SO5186). Astonishingly, Fool's Water-cress has not been recorded in that 10km square again, although it must undoubtedly be there in many places; but this is why Mary Fuller's records were to prove so valuable over the next thirty years: she was a very competent botanist recording in a part of the county that hardly anyone else ever visited.



Our enquiries have revealed very little information about Miss Fuller. Before retirement she apparently worked for Dunlop as Manager of Materials Procurement. She is remembered at the Shropshire Wildlife Trust as a keen supporter who donated their first fax machine in the 1980s. She seems to have learned botany as a member of the Wild Flower Society in the early 1970s, and during the late '70s and early '80s she was a 10km square coordinator for Sinker's Flora project. She continued to make botanical records in the county until 1998, when advancing age confined her to a nursing home. At this time she donated a sizeable – and very good – photographic slide collection to the Wildlife Trust, which John Tucker passed on the Botanical Society. This includes rare plants from all over Britain and Europe, and several of her pictures are currently in use on web sites managed by the BSBI.

A total of 2,809 of her botanical records are currently listed on the Shropshire Flora database, representing 609 species. Quite a few of these were of noteworthy finds. It was Mary Fuller who first recorded the Field Garlic *Allium oleraceum* at Blakeway Hollow (SO6099) – the only remaining site for this species in the county. She also found White Helleborine *Cephalanthera damasonium* on Wenlock Edge (SO6099 & SO5998) in 1974. Perhaps her most valuable record in the county was of Floating Water-plantain *Luronium natans* at Brown Moss in 1986: her photograph is the last tangible evidence of it at that site.

Even in a botanical desert such as Corve Dale there are occasional interesting plants to be seen. In the 1970s Mary recorded Green Figwort *Scrophularia umbrosa* at eleven places along the Corve and its tributaries. None of these records has been repeated, but probably no-one has looked. When she found

Dwarf Elder *Sambucus ebulus* at Peaton (SO5384) in 1989, it was nearly 200 years since Edward Williams had last recorded it there.

Other significant finds of Mary's include the following:-

Persicaria mitis, Tasteless Water-pepper, Broncroft Lodge, SO5386, 1979
Cardamine bulbifera, Coralroot, Broncroft Castle, SO544867, 1978 & 1992
Pyrola minor, Common Wintergreen, Knowle Wood Nature Reserve, SO6073, 1987
Monotropa hypopitys, Yellow Bird's-nest, Lilleshall Quarry, SO5796, 1974
Ononis spinosa, Spiny Restharrow, Lydehole, SO5182, 1978, 1982 & 1986
Galeopsis angustifolia, Red Hemp-nettle, Bache Mill, SO5086, 1992
Orobanche rapum-genistae, Greater Broomrape, Aston Munslow, SO5187, 1976
Serratula tinctoria, Saw-wort, Sutton Hill, SO5382, 1980
Centaurea cyanus, Cornflower, California, SO5280, 1981
Carex montana, Soft-leaved Sedge, Chamberline Wood, SO7676, 1982

It must be admitted that Miss Fuller was sometimes rather optimistic about the status of the plants she recorded. In 1998 we were invited to Aston Munslow to see several plants of Cut-leaved Germander *Teucrium botrys* that had apparently come up spontaneously in her garden. It is true that it was growing vigorously there, but the only likely explanation is that she had brought it back inadvertently from one of her botanical expeditions. To be fair, this species was generally considered a Red Data Book plant until it was downgraded to archaeophyte in the New Atlas, so she was among good company if she was guilty of wishful thinking. The whole issue of the spread and establishment of species is one that cannot easily be resolved. If Cut-leaved Germander ever becomes a rampant weed in Corvedale, we shall at least have a clue where it might have come from.

Another rare plant growing at her house was Grey Sedge *Carex divulsa*, which has persisted since 1974; but again it was probably introduced there. Other interesting plants she recorded at Aston Munslow include Mountain Currant *Ribes alpinum*, Lungwort *Pulmonaria officinalis* and Three-cornered Garlic *Allium triquetrum* – all obvious garden escapes.

It would be fair to conclude that Mary Fuller made a highly significant contribution to our knowledge of the botany of the county, most particularly due to her coverage of the Corvedale area. She was a talented photographer and a skilled botanist, and we can only hope it will not be 200 years before anyone else explores this part of the county. With the prospect of arable subsidies disappearing, there is every chance that Corvedale could revert to the wildlife-rich area that Leighton and others recorded in the 19th century.

New Recording Card

Included with this newsletter should be a new recording card for use in Shropshire. This only has species that occur in the county, but it omits several of the very rarest (you are supposed to fill in individual record cards for these) and many aliens. It does have more up-to-date nomenclature than many other recording cards. We hope it will make recording easier. To use the card, simply strike through the name of each plant you record with a bold line (we don't need to be able to read it subsequently). If you make a mistake, put a cross at each end of the line like this: x ~~Cerat cla~~ x

When filling in a recording card, please do not change the names – if you do not see the taxon you require on the card, write it in the margin or at the end or, ideally, fill out a detailed record card because it is probably something unusual. This goes for aggregates, too – you can't change *Carex acuti* to *Carex* sp. and then tick it. The reason for this is that the computer has an identical list to that on the card, and it will go onto the database exactly as listed – there is no facility to put in something else instead. Finally, please use a new card for each list: don't use two colours to indicate different days or different sites.

Luronium natans – a new site in Shropshire

Alex Lockton & Sarah Whild

On August 5th last year Kate Thorne made a remarkable discovery. In a field of cattle pasture in the Severn-Vyrnwy Confluence she came across an extensive patch of Floating Water-plantain *Luronium natans* occupying a damp hollow about 20m x 10m across. At the time she found it there was standing water and the plants had floating rosettes connected by stolons, so its identification was straightforward. Over the next few weeks the field dried out and the plants assumed their terrestrial form, which botanists once believed was a separate subspecies. The photograph on the front cover of this newsletter is of one of the robust terrestrial rosettes.

There have been over the years several records of *Luronium* along rivers in the Marches, and it is believed that plants that are washed down from the Welsh lakes occasionally establish themselves and form temporary colonies. For instance, Arthur Aikin recorded it at Tenbury Wells in about 1805 and some time before 1905 Robert Tucker collected it at Diglis in Worcester. This is the first time in living memory that such a river floodplain colony has been found, and the first record ever of it growing in farmland. We can only assume that it will not last long, but from the size of the population it must surely have been there for a fair while; possibly a decade or more. There is an intriguing possibility that there could be other such colonies anywhere in the flood plains of the Severn, Vyrnwy, Dee or Teme. In 2000 Mark Lawley, Jean Wynne-Jones and Les Smith found what they thought was *Luronium* in an oxbow of the Teme in Herefordshire, but their photograph appeared to be of *Alisma plantago-aquatica* and the voucher specimen was later lost, so the record has not been widely accepted. Another look would certainly be worthwhile.

Kate Thorne's record is, fortunately, not in any doubt. It is an offence to pick *Luronium natans*, but Sarah Whild had a licence from English Nature and collected some specimens later that month. One was sent to Ness Botanic Gardens for cultivation and DNA analysis which will hopefully identify the precise origin of this population. Another plant is in cultivation in Shrewsbury, to compare it with plants from Bomere Pool, the Montgomery Canal and with what seems certain to be *Alisma plantago-aquatica* from Brown Moss.

The precise location is strictly confidential, not so much because of any threat to the plant but because it is on private, inaccessible farmland. English Nature has decided that it should not be designated a SSSI because it is probably only a temporary population, but the site is being protected under a Countryside Stewardship agreement. It is not a County Wildlife Site. All we can say is that it is in the 10km square SJ31. The list of associated species above was recorded by Kate Thorne, Sarah Whild and Alex Lockton on 29th August 2003.

Associated species of *L. natans*

Agrostis stolonifera	Creeping Bent
Alisma plantago-aquatica	Water-plantain
Alopecurus geniculatus	Marsh Foxtail
Atriplex prostrata	Spear-leaved Orache
Bidens cernua	Nodding Bur-marigold
B. tripartita	Trifid Bur-marigold
Carex hirta	Hairy Sedge
Deschampsia cespitosa	Tufted Hair-grass
Eleocharis palustris	Common Spike-rush
Epilobium obscurum	Short-fruited Willowherb
Equisetum fluviatile	Water Horsetail
Filipendula ulmaria	Meadowsweet
Galium palustre	Common Marsh-bedstraw
Glyceria maxima	Reed Sweet-grass
Gnaphalium uliginosum	Marsh Cudweed
Hottonia palustris	Water-violet
Juncus articulatus	Jointed Rush
J. effusus	Soft Rush
Lemna minor	Common Duckweed
Lysimachia nummularia	Creeping-Jenny
Lythrum portula	Water Purslane
L. salicaria	Purple-loosestrife
Myosotis laxa	Tufted Forget-me-not
Oenanthe aquatica	Fine-leaved Water-dropwort
Persicaria amphibia	Amphibious Bistort
P. hydropiper	Water-pepper
P. lapathifolia	Pale Persicaria
P. maculosa	Redshank
P. minor	Small Water-pepper
Phleum pratense	Timothy
Ranunculus acris	Meadow Buttercup
R. aquatilis	Water Crowfoot
R. flammula	Lesser Spearwort
R. repens	Creeping Buttercup
Rorippa palustris	Marsh Yellow-cress
Senecio aquaticus	Marsh Ragwort
Stellaria graminea	Lesser Stitchwort
Veronica scutellata	Marsh Speedwell

We are grateful to Angela Cott of the Severn-Vyrnwy project for permission to publish this information about the new *Luronium* site.

Species of Conservation Significance

Sarah Whild & Alex Lockton

The Shropshire Wildlife Trust asked the Botanical Society to draw up a list of species that could be used as part of a scientific process to identify County Wildlife Sites. This is not as simple a job as it sounds – you cannot just use a list of rarities, because rarity is not what nature conservation is about. Conservation is the process of protecting the natural environment intact, not gardening for rare species. So what you want are plants that are indicative of the best of the natural environment in the county – ancient woodlands, unimproved grasslands, unpolluted waterbodies, and so forth. We suggest that the species listed below are among the most appropriate ones to choose for this purpose. It is only a draft list at this stage, and members are invited to propose alternatives.

But first a warning! Focusing on individual species is usually counter-productive in nature conservation. Initiatives such as the UK Biodiversity Action Plan, which measures the state of the environment by the number of sites that rare species occur in, have caused untold damage to nature conservation as organisations plant out rarities in order to fulfil their political objectives. Sowing seeds or dibbing in pot plants on a nature reserve clearly does nothing whatsoever to address ecological problems such as eutrophication, fragmentation of habitat, lack of appropriate management, and agricultural intensification, but nevertheless that is what many conservation organisations focus on these days. If a list of indicator species is to be any use at all, those species must never be meddled with by gardening or planting. Anyone could buy seed of the species listed below and grow them in their back garden – that would mean nothing. But to find them growing naturally in a semi-wild site often tells you that the habitat is ancient and relatively undisturbed, and quite possibly harbours a whole suite of other species, from fungi to invertebrates, that cannot so easily be recorded.

How to use the list

Indicator species should only be used in combination – one on its own is rarely of any significance, and they should only be counted if they are in a habitat appropriate to them. If planted or "reinforced" by gardening, then they should be considered to have been lost from the site, as the habitat obviously declined to the point where they could no longer occur naturally. The way to make a scientific case for the designation of a Wildlife Site, SSSI or even an Arable Stewardship site is to describe its semi-natural habitats and vegetation communities from the list below and then cite the indicator species that are present in those habitats. For instance, an area of ancient woodland with abundant *Adoxa moschatellina*, *Galium odoratum*, *Hyacinthoides non-scripta* and *Listera ovata* would probably qualify as a Wildlife Site. But those species could as easily be found in a hedgerow or grassland, where they might not be enough to warrant any particular status. It is not an easy job, but it is undoubtedly a good idea for conservation bodies to try to define more precisely what is important about a protected site – and this is one way to start to do that. Hopefully in the future, the Society can start work on NVC communities of conservation significance within the county.

Habitats of conservation significance in Shropshire

- Ancient semi-natural woodlands (W)
- Species-rich grassland (G)
- Heathland & moorland (H)
- Bog, flushes and mires (B)
- Swamp & fen (F)
- Unpolluted open waters (O)
- Rock exposures & scree (R)
- Traditional arable weed communities (A)

Habitat Indicator Species in Shropshire

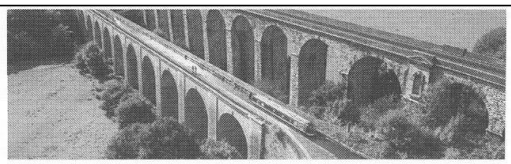
Acer campestre, Field Maple (W)
Achillea ptarmica, Sneezewort (G)
Adoxa moschatellina, Moschatel (W)
Aira caryophyllea, Silver Hair-grass (G)
A. praecox, Early Hair-grass (G)
Alchemilla filicaulis, Lady's-mantle (G)
A. glabra, Lady's-mantle (G)
A. xanthochlora, Lady's-mantle (G)
Alisma lanceolatum, Narrow-leaved Water-plantain (W)
Allium oleraceum, Field Garlic (G)
Alopecurus aequalis, Orange Foxtail (O)
Anacamptis pyramidalis, Pyramidal Orchid (G)
Anagallis minima, Chaffweed (G)
A. tenella, Bog Pimpernel (B, F)
Anchusa arvensis, Bugloss (A)
Andromeda polifolia, Bog-rosemary (B)
Anemone nemorosa, Wood Anemone (W)
Anthemis cotula, Stinking Chamomile (A)
Anthriscus caucalis, Bur Parsley (A)
Anthyllis vulneraria, Kidney Vetch (G)
Apium inundatum, Lesser Marshwort (O)
Astragalus glycyphyllos, Wild Liquorice (W, G)
Berula erecta, Lesser Water-parsnip (O)
Blackstonia perfoliata, Yellow-wort (G)
Blechnum spicant, Hard Fern (W, H)
Botrychium lunaria, Moonwort (G)
Briza media, Quaking-grass (G, B)
Bromopsis benekenii, Lesser Hairy-brome (W)
B. erecta, Upright Brome (G)
Bromus racemosus, Smooth Brome (G, A)
Butomus umbellatus, Flowering Rush (O)
Calamagrostis canescens, Purple Small-reed (F, W)
C. epigejos, Wood Small-reed (W, F)
Callitriche hermaphroditica, Annual Water-starwort (O)
Campanula latifolia, Giant Bellflower (W)
C. patula, Spreading Bellflower (G)
C. trachelium, Nettle-leaved Bellflower (G)
Cardamine impatiens, Narrow-leaved Bitter-cress (W)
C. amara, Large Bitter-cress (W)
Carex acuta, Slender Tufted-sedge (O)
C. binervis, Green-ribbed Sedge (H, B)
C. caryophyllea, Spring Sedge (G)
C. curta, White Sedge (B)
C. digitata, Fingered Sedge (W)
C. dioica, Dioecious Sedge (B)
C. disticha, Brown Sedge (G, F)
C. echinata, Star Sedge (H, B)
C. elata, Tufted Sedge (F)
C. elongata, Elongated Sedge (W, F)
C. hostiana, Tawny Sedge (H, B)
C. laevigata, Smooth-stalked Sedge (H,W)
C. lasiocarpa, Slender Sedge (O, B)
C. montana, Soft-leaved Sedge (W, H)
C. muricata ssp. *muricata*, Prickly Sedge (R, G)
C. pallescens, Pale Sedge (W, G)
C. paniculata, Greater Tussock-sedge (F, O, W)
C. pilulifera, Pill Sedge (H)
C. pseudocyperus, Cyperus Sedge (F, W)
C. pulicaris, Flea Sedge (H, B)
C. rostrata, Bottle Sedge (B, O)
C. strigosa, Thin-spiked Wood-sedge (W)
C. vesicaria, Bladder-sedge (G, F)
C. viridula, Yellow Sedge (H, B, F)
Carlina vulgaris, Carline Thistle (G)
Catabrosa aquatica, Whorl-grass (O)
Catapodium rigidum, Fern-grass (G, R)
Centaurea scabiosa, Greater Knapweed (G)
Cerastium diffusum, Dark-green Mouse-ear (G, R)
C. semidecandrum, Little Mouse-ear (G, R)
Ceratocapnos claviculata, Climbing Corydalis (W, H)
Chrysanthemum segetum, Corn Marigold (A)
Chrysosplenium alternifolium, Alternate-leaved Golden-saxifrage (W)
Cicuta virosa, Cowbane (F, W)
Circaea x intermedia, Upland Enchanter's-nightshade (W)
Cirsium acaule, Dwarf Thistle (G)
C. dissectum, Meadow Thistle (G, F)
C. eriophorum, Woolly Thistle (G)
Cladium mariscus, Great Fen-sedge (F, O)
Clinopodium acinos, Basil Thyme (G, R)
C. ascendens, Common Calamint (G, R)
C. vulgare, Wild Basil (G, R)
Coeloglossum viride, Frog Orchid (G)
Colchicum autumnale, Meadow Saffron (G, W)
Convallaria majalis, Lily of the Valley (W, R)
Crataegus laevigata, Midland Hawthorn (W)
Crepis paludosa, Marsh Hawk's-beard (W, B, G)
Cryptogramma crispa, Parsley Fern (R)
Cystopteris fragilis, Brittle Bladder-fern (R)
Dactylorhiza incarnata, Early Marsh-orchid (B)
D. maculata, Heath Spotted-orchid (H, B, G)
D. praetermissa, Southern Marsh-orchid (G, F)
D. purpurella, Northern Marsh-orchid (G, F, B)
Daphne laureola, Spurge-laurel (W)
Dianthus deltoides, Maiden Pink (G, R)
Dipsacus pilosus, Small Teasel (W)
Drosera anglica, Great Sundew (B)
D. intermedia, Oblong-leaved Sundew (B)
D. rotundifolia, Round-leaved Sundew (B)
Dryopteris carthusiana, Narrow Buckler-fern (W, H, B)
Echium vulgare, Viper's Bugloss (G, R)
Elatine hexandra, Six-stamened Waterwort (O)
Eleocharis acicularis, Needle Spike-rush (O)
E. multicaulis, Many-stalked Spike-rush (B)
E. quinqueflora, Few-flowered Spike-rush (B)
Eleogiton fluitans, Floating Club-rush (O)
Empetrum nigrum, Crowberry (H, R)
Epipactis helleborine, Broad-leaved Helleborine (W, G)
E. palustris, Marsh Helleborine (F)
E. phyllanthes, Green-flowered Helleborine (W)
E. purpurata, Violet Helleborine (W)
Equisetum sylvaticum, Wood Horsetail (W, H)
Erigeron acer, Blue Fleabane (G, H)
Eriophorum angustifolium, Common Cottongrass (H, B, F)
E. latifolium, Broad-leaved Cottongrass (F)
E. vaginatum, Hare's-tail Cottongrass (H, B, F)
E. moschatum, Musk Stork's-bill (G, R)
Erophila verna, Common Whitlowgrass (G, R)

Euonymus europaeus, Spindle (W)
Euphorbia amygdaloides, Wood Spurge (W)
Euphrasia officinalis agg., Eyebright (G)
Festuca altissima, Wood Fescue (W, R)
Filago minima, Small Cudweed (G, R)
Filipendula vulgaris, Dropwort (G)
Frangula alnus, Alder Buckthorn (W, B)
Fumaria bastardii, Tall Ramping-fumitory (A)
F. capreolata, White Ramping-fumitory (A)
F. densiflora, Dense-flowered Fumitory (A)
F. purpurea, Purple Ramping-fumitory (A)
Gagea lutea, Yellow Star-of-Bethlehem (G, W, R)
Galeopsis angustifolia, Red Hemp-nettle (A, R)
G. speciosa, Large-flowered Hemp-nettle (A)
Galium odoratum, Woodruff (W)
G. uliginosum, Fen Bedstraw (F, G)
Genista anglica, Petty Whin (G, H)
G. tinctoria, Dyer's Greenweed (G)
Gentiana pneumonanthe, Marsh Gentian (H, B)
Gentianella amarella, Autumn Gentian (G, R)
G. campestris, Field Gentian (G)
Geranium columbinum, Long-stalked Crane's-bill (R, G)
G. sanguineum, Bloody Crane's-bill (R)
G. sylvaticum, Wood Crane's-bill (W, G, R)
Geum rivale, Water Avens (W, F)
Gnaphalium sylvaticum, Heath Cudweed (W, H)
Gymnadenia conopsea, Fragrant Orchid (G, F)
Gymnocarpium dryopteris, Oak Fern (R, W, H)
Helianthemum nummularium, Common Rock-rose (G, R)
Helictotrichon pubescens, Downy Oat-grass (G)
Helleborus foetidus, Stinking Hellebore (W)
H. viridis, Green Hellebore (W)
Hieracium lasiophyllum, a hawkweed (R)
H. subcrassum, a hawkweed (R)
Hordelymus europaeus, Wood Barley (W)
Hottonia palustris, Water-violet (O, B)
Huperzia selago, Fir Clubmoss (R)
Hyacinthoides non-scripta, Bluebell (W)
Hydrocharis morsus-ranae, Frogbit (O)
Hypericum elodes, Marsh St. John's-wort (B, F)
H. montanum, Pale St. John's-wort (R, G)
H. pulchrum, Slender St. John's-wort (W, G, H)
Hypochaeris glabra, Smooth Cat's-ear (G, R, A)
Impatiens noli-tangere, Touch-me-not Balsam (W)
Inula conyzae, Ploughman's-spikenard (G, W)
Iris foetidissima, Stinking Iris (W)
Isolepis setacea, Bristle Club-rush (B, F)
Jasione montana, Sheep's-bit (H, R)
Juncus foliosus, Leafy Rush (B, F, O)
J. subnodulosus, Blunt-flowered Rush (F)
Kickxia elatine, Sharp-leaved Fluellen (A, R)
Lamiastrum galeobdolon ssp. *montanum*, Yellow Archangel (W)
Lamium amplexicaule, Hen-bit Dead-nettle (A)
L. hybridum, Cut-leaved Dead-nettle (A)
Lathraea squamaria, Toothwort (W)
Lathyrus linifolius, Bitter Vetch (W, G)
L. sylvestris, Narrow-leaved Everlasting-pea (W)
Legousia hybrida, Venus's-looking-glass (A)
Lepidium campestre, Field Pepperwort (R, G)
Linum catharticum, Fairy Flax (G, B, F, R)
Listera ovata, Common Twayblade (G, W)
Lithospermum officinale, Common Gromwell (G, R)
Littorella uniflora, Shoreweed (O, H, B)
Luronium natans, Floating Water-plantain (O)
Luzula multiflora, Heath Wood-rush (G, H, W)
L. pilosa, Hairy Wood-rush (W)
L. sylvatica, Great Wood-rush (W, H)
Lycopodium clavatum, Stag's-horn Clubmoss (H, R)
Lysimachia vulgaris, Yellow Loosestrife (W, F)
Lythrum portula, Water Purslane (B, O)
Melampyrum pratense, Common Cow-wheat (H, W)
Melica nutans, Mountain Melick (W, R)
M. uniflora, Wood Melick (W)
Menyanthes trifoliata, Bogbean (B, F, O)
Milium effusum, Wood Millet (W)
Moenchia erecta, Upright Chickweed (G, R)
Monotropa hypopitys, Yellow Bird's-nest (W)
Myosotis discolor, Changing Forget-me-not (G)
M. ramosissima, Early Forget-me-not (G, R)
M. secunda, Creeping Forget-me-not (B, O)
Myrica gale, Bog Myrtle (W, B)
Myriophyllum alterniflorum, Alternate Water-milfoil (O)
M. verticillatum, Whorled Water-milfoil (O)
Narcissus pseudonarcissus ssp. *pseudonarcissus*, Daffodil (W)
Narthecium ossifragum, Bog Asphodel (B)
Neottia nidus-avis, Bird's-nest Orchid (W)
Nuphar pumila, Least Water-lily (O)
Oenanthe aquatica, Fine-leaved Water-dropwort (O)
O. crocata, Hemlock Water-dropwort (O)
O. fistulosa, Tubular Water-dropwort (O, F)
Ononis repens, Common Restharrow (G)
O. spinosa, Spiny Restharrow (G)
Ophioglossum vulgatum, Adder's-tongue (G)
Ophrys apifera, Bee Orchid (G)
Orchis mascula, Early-purple Orchid (W, G)
O. morio, Green-winged Orchid (G)
Oreopteris limbosperma, Lemon-scented Fern (H, B)
Origanum vulgare, Wild Marjoram (G, R)
Ornithopus perpusillus, Bird's-foot (G, R)
Orobanche rapum-genistae, Greater Broomrape (G, H)
Osmunda regalis, Royal Fern (W, B)
Oxalis acetosella, Wood-sorrel (W)
Papaver argemone, Prickly Poppy (A)
P. hybridum, Rough Poppy (A)
Paris quadrifolia, Herb Paris (W)
Parnassia palustris, Grass of Parnassus (F)
Pedicularis palustris, Marsh Lousewort (B, F)
P. sylvatica, Lousewort (G, H, B)
Persicaria minor, Small Water-pepper (G, F, O)
Phegopteris connectilis, Beech Fern (R)
Pimpinella saxifraga, Burnet-saxifrage (G)
Pinguicula vulgaris, Common Butterwort (H, B, F)
Plantago coronopus, Buck's-horn Plantain (G, R)
P. media, Hoary Plantain (G)
Platanthera bifolia, Lesser Butterfly-orchid (G, H)
P. chlorantha, Greater Butterfly-orchid (G, W)
Poa compressa, Flattened Meadow-grass (R, G)
Polygala serpyllifolia, Heath Milkwort (H, G)

Polypodium cambricum, Southern Polypody (R)
Polystichum aculeatum, Hard Shield-fern (W)
P. setiferum, Soft Shield-fern (W)
Potamogeton alpinus, Red Pondweed (O)
P. compressus, Grasswrack Pondweed (O)
P. friesii, Flat-stalked Pondweed (O)
P. obtusifolius, Blunt-leaved Pondweed (O)
P. polygonifolius, Bog Pondweed (O, B)
P. praelongus, Long-stalked Pondweed (O)
Potentilla argentea, Hoary Cinquefoil (R, G)
P. palustris, Marsh Cinquefoil (B, F, O)
Prunus padus, Bird Cherry (W)
Pulicaria dysenterica, Common Fleabane (G, F)
Pyrola media, Intermediate Wintergreen (W)
P. minor, Common Wintergreen (W)
P. rotundifolia, Round-leaved Wintergreen (W)
Ranunculus arvensis, Corn Buttercup (A)
R. auricomus, Goldilocks Buttercup (W, G)
R. circinatus, Fan-leaved Water-crowfoot (O)
R. fluitans, River Water-crowfoot (O)
R. lingua, Greater Spearwort (W, F)
R. omiophyllus, Round-leaved Crowfoot (B, O)
R. parviflorus, Small-flowered Buttercup (R, G, A)
R. peltatus, Pond Water-crowfoot (O)
R. penicillatus, Stream Water-crowfoot (O)
R. sardous, Hairy Buttercup (R, G, A)
R. trichophyllus, Thread-leaved Water-crowfoot (O)
Rhamnus cathartica, Buckthorn (W)
Rhinanthus minor, Yellow-rattle (G)
Rhynchospora alba, White Beak-sedge (B)
Rosa micrantha, Small-flowered Sweet-briar (R, G)
R. pimpinellifolia, Burnet Rose (R)
Rubus chamaemorus, Cloudberry (B)
R. saxatilis, Stone Bramble (R)
Rumex maritimus, Golden Dock (F, O)
Sagina nodosa, Knotted Pearlwort (B, F)
Salix aurita, Eared Willow (H)
S. pentandra, Bay Willow (H, B, W)
S. purpurea, Purple Willow (W, B, F)
S. repens, Creeping Willow (H, B, F)
S. x multinervis, a willow (H)
Samolus valerandi, Brookweed (G, B, F)
Sanguisorba minor, Salad Burnet (G)
S. officinalis, Great Burnet (G)
Sanicula europaea, Sanicle (W)
Saxifraga tridactylites, Rue-leaved Saxifrage (R)
Scabiosa columbaria, Small Scabious (G, R)
Schoenoplectus tabernaemontani, Grey Club-rush (O, F)
Scirpus sylvaticus, Wood Club-rush (W, F)
Scleranthus annuus, Annual Knawel (A)
Scrophularia umbrosa, Green Figwort (W)
Scutellaria minor, Lesser Skullcap (B)
Sedum forsterianum, Rock Stonecrop (R, G)
Senecio aquaticus, Marsh Ragwort (O, F, G)
Serratula tinctoria, Saw-wort (G, W)
Sherardia arvensis, Field Madder (G, R, A)
Silaum silaus, Pepper-saxifrage (G)
Solidago virgaurea, Goldenrod (R, W, G)
Sorbus anglica, English Whitebeam (R)
S. torminalis, Wild Service-tree (W)
Spiranthes spiralis, Autumn Lady's-tresses (G, R)
Spirodela polyrhiza, Greater Duckweed (O)
Stachys arvensis, Field Woundwort (A)
S. officinalis, Betony (W, G)
S. palustris, Marsh Woundwort (F, O)
Stellaria pallida, Lesser Chickweed (G, R)
S. palustris, Marsh Stitchwort (F, G)
Teesdalia nudicaulis, Shepherd's Cress (G, R)
Thalictrum flavum, Common Meadow-rue (G, F)
Thelypteris palustris, Marsh Fern (W, F)
Thymus pulegioides, Large Thyme (G, R)
Tilia cordata, Small-leaved Lime (W)
T. platyphyllos, Large-leaved Lime (W)
Torilis nodosa, Knotted Hedge-parsley (G, R)
Trichophorum cespitosum, Deergrass (H, B)
Trifolium campestre, Hop Trefoil (G, R)
T. micranthum, Slender Trefoil (G, R)
T. striatum, Knotted Clover (G, R)
Triglochin palustre, Marsh Arrowgrass (B, F, G)
Trisetum flavescens, Yellow Oat-grass (G)
Trollius europaeus, Globe-flower (F)
Typha angustifolia, Lesser Bulrush (O, F)
U. procera, English Elm (W)
Utricularia minor, Lesser Bladderwort (O, B)
Vaccinium oxycoccos, Cranberry (H, B)
V. vitis-idaea, Cowberry (H, R)
Valeriana dioica, Marsh Valerian (B, F, W)
Valerianella eriocarpa, Hairy-fruited Cornsalad (A, R)
Veronica anagallis-aquatica, Blue Water-speedwell (O, F)
V. catenata, Pink Water-speedwell (O, F)
V. montana, Wood Speedwell (W)
V. scutellata, Marsh Speedwell (B, F, O)
Vicia sylvatica, Wood Vetch (W)
Viola canina, Heath Dog-violet (G)
V. lutea, Yellow Mountain Pansy (G)
V. palustris, Marsh Violet (W, B)
V. reichenbachiana, Early Dog-violet (W)
Wahlenbergia hederacea, Ivy-leaved Bellflower (B)
Zannichellia palustris, Horned Pondweed (O)

Letter to the editor

British Waterways
Dyfrffyrdd
Prydain



Mr Alex Longton
Editor SBS Newsletter
66 North Street
Shrewsbury
Shrosphire
SY1 2JL

Your Ref:
Our Ref: MO1/091203/PCB

17 December 2003

Dear Mr Longton

Response to the article in SBS newsletter (Autumn 2003) – "Golden Ragwort Award"

I was disappointed to read your article in the autumn newsletter; which contained so many inaccuracies and misrepresentations of the facts.

I will not go over the points in detail as the tone of the article is such as to make it clear that a reasonable discussion of the facts or a positive way forward are not being considered.

British Waterways is committed to positive management of it's designated canals and other habitats and this will be taken forward with English Nature on publication of their review of SSSI status which is due imminently. This will include discussions with the local Wildlife Trust who have leased the Prees Branch for many years.

With the other members of the Montgomery Canal Partnership we are currently putting together a Management Strategy for the future restoration of the Montgomery Canal which will ensure a net increase in the ecological value of the canal and all its connected habitats. This will also address management solutions for any accurately reported declines in value in recent years. All the Partners are agreed that a truly sustainable future for the Canal is vital for the protection of all its value covering social, economic and wider environmental issues, including nature conservation. This strategy will be available for public consultation in the New Year and we would welcome the Society's constructive comments.

Yours faithfully

Peter Birch
Rheolwr Amgylchedd a Threftadaeth - Cymru a'r Gororau
Environment & Heritage Manager - Wales and Border Counties
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The Shropshire Botanical Society

Is an independent association of professional and amateur botanists concerned with botany, ecology and conservation in Shropshire. It is a voluntary society with the aim of promoting the study and appreciation of botany; conducting research into and recording the flora and plant communities of Shropshire (vice-county 40); and co-operating with other organisations to promote the conservation of the flora of Shropshire.

Membership costs £6 p.a. or £15 for three years and is due on 1st January of the year given below. Please write to the treasurer, Roger Green, Manor Cottage, Ratlinghope, SY5 0SR and make cheques payable to The Shropshire Botanical Society.

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